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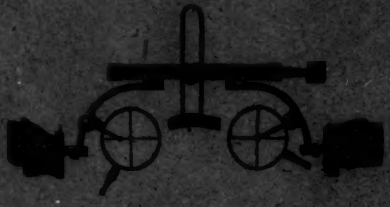

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THE BRITISH JOURNAL

OF

OPHTHALMOLOGY

JULY, 1942

COMMUNICATIONS

THE COLLECTED WORKS OF C. H. USHER

A contribution to Human Genetics, mainly ophthalmic, and to its bibliography

BY

W. C. SOUTER

ABERDEEN

Two main reasons exist for attempting to put on record the papers and other works of the late C. H. Usher. The first comes from the head, and is prompted by the remark of Sir John Parsons a few years ago at a meeting of the Ophthalmological Society of the United Kingdom, when he referred to the fact that the President had published some very high-class work in out of the way journals, not coming into the view of the ordinary ophthalmic surgeon. Consequently it might prove helpful to future explorers if a list were made as nearly complete as can be expected at this time of difficulty. The second reason is from the heart, and may be acceptable as a small tribute from one who was privileged to be his first and only assistant at the Aberdeen Royal Infirmary from 1906 to 1913, becoming then his Chief Assistant till his—Usher's—somewhat unwilling, retirement in 1926, thereafter his successor.

Dr. Usher's contributions took on much of the character of our local granite but retained the attractive sparkle of its mica. They

have already proved useful foundation stones and will, in future, be more widely used when known better.

Having come to us from Edinburgh he slipped back there for the last few years of his long life, leaving behind him a reputation for devotion to duty and for hard work, together with a literary output that can scarcely be equalled for its wide scope and its deep scientific value, that anyone might well envy.

1893.—Statistical Report of the Ophthalmic Department for the Year 1891—St. Thomas's Hospital—actually published in 1893.

St. Thomas's Hospital Reports, Vol. XXI, pp. 513-526, 1891.

1893.—A Note on Secondary Transverse Films of Cornea.

Roy. Lond. Ophthal. Hosp. Reps., Vol. XIII, Part IV, pp. 508-528, 1893; one half page and two whole page drawings of sections; 5 references.

1896.—Medullated Nerve Fibres of the Human Retina. Microscopical examination of three eyes.

Ophthal. Rev., Vol. XV, pp. 1-8, 1896; one plate (reproduction of drawing) and one small drawing; 4 references.

1896.—Observations on the Retinal Bloodstream at the Time of Death.

Ophthal. Rev., Vol. XV, pp. 339-351, 1896; no illustrations; 2 references

This early article is based on examinations made on man, monkey, rabbit and cat, and, although assailed now and then, would appear to have stood the test of time.

See *Trans. Ophthal. Soc. U.K.*, Vol. XLVIII, p. 150, 1928.

1896, July.—Experimental Research on the Course of the Optic Fibres. With Dr. (afterwards Professor) George Dean, from the Aberdeen University Pathological Department under Professor D. J. Hamilton.

Trans. Ophthal. Soc. U.K., Vol. XVI, pp. 248-276, 1896; 3 Plates, numerous sketches—a preliminary communication.

Deals mainly with the early work on rabbits before monkeys were operated on.

Later, in *Brain*, Vol. XXVI, No. 104, dealing with the experiments on Macacus Rhesus.

1904.—Notes of Cases of Pulsating Exophthalmos. With one plate.

Ophthal. Rev., Vol. XXIII, pp. 315-330, 1904.

Of the three cases recorded one came to autopsy, and the Plate shows the drawing made by Professor R. W. Reid. Autopsy cases

were only something over 19 since Sattler's paper in 1880, but the main other interest in the paper is the suggestion to tie the external and internal carotids instead of the common carotid.

1906.—An Analysis of a Series of Consecutive Conjunctivitis Cases seen in Aberdeen. With charts tables, 3 Plates, of which two are of micro-organisms. Along with Dr. Henry Fraser, afterwards of Kualalumpur.

Roy. Lond. Ophthal. Hosp. Reps., Vol. XVI, Part IV, pp. 434-495, June, 1906. A few footnote references.

A carefully worked-out survey of the subject in Aberdeen, somewhat marred by the quite inexplicable mis-spelling 'Koch-Week's bacillus' throughout. Bacteriological work of a very high order, according to Angus Macnab.

1906, July.—A Note on the Choroid at the Macular Region.

Trans. Ophthal. Soc. U.K., Vol. XXVI, pp. 107-110, 1906; two microphotographs.

Microscopic sections of twelve eyes showed that the two papilla-diameter dark area at the macular area has these features, a deeper pigmentation of the retinal epithelium, an increased thickness of this layer, a marked increase in the pigmentation of the choroid, an increase in the thickness of the choroid. "It might be expected that when pigment is present at all in the choroid of an albino, it will be situated at that part which is directly behind the macular region of the retina."

1906, July.—Notes of a Case of Unilateral White Eyelashes and Tufts of Hair. With pedigree in text.

Trans. Ophthal. Soc. U.K., Vol. XXVI, pp. 23-26, 1906.

It is interesting that no mention is made of the historic white tuft of James McNeill Whistler.

1912.—Case of Congenital Nystagmus with Microscopical Examination of Eyeballs.

Roy. Lond. Ophthal. Hosp. Reps., Vol. XVIII, pp. 440-447, 1912; one folding pedigree, one plate, three references.

1912, June.—A Pedigree of Colour-Blindness.

Trans. Ophthal. Soc. U.K., Vol. XXXII, pp. 352-361, 1912. Some footnote references; inset a very large pedigree chart.

1911-1913.—The Magnum Opus. A Monograph on Albinism in Man.

Drapers' Company Research Memoirs—Biometric Series. With Karl Pearson, F.R.S., and E. Nettleship, F.R.C.S., F.R.S. 6 Vols.

1914.—The Refraction of the Eyes and Nystagmus in Two Albino Infants. A short note.

Ophthal. Rev., Vol. XXXIII, pp. 362-365, 1914.

It is suggested that the astigmatism be considered congenital, whilst there is some support for the view that the rapidity of the oscillations of nystagmus in albinos tends to increase, up to a certain time, with age. One of the earliest recorded such examinations made.

1914.—On the Inheritance of Retinitis Pigmentosa. Letterpress covering 40 pedigree charts, some very extensive, with some tables and Fields.

Roy. Lond. Ophthal. Hosp. Reps., Vol. XIX, Part II, pp. 130-236, 1914. About 116 footnote references.

In the 40 pedigrees were 69 cases of retinitis pigmentosa, and 35 of the cases were investigated as to the Wassermann reaction by Dr. A. W. Falconer, afterwards Professor and then Principal in the University of Cape Town, one of the earliest and largest such groups so investigated. In 21 of the 40 pedigrees there was but one case of the affection found. On page 160 occurs the caveat "Yet, it has so frequently occurred when working out these pedigrees that a description closely resembling that of retinitis pigmentosa has led to the supposition that this disease was present, until on examination some other condition was found, that the importance of accepting with reserve any case that has not been examined, it seems to me, cannot be too strongly emphasised." Along with this one should take note that Nettleship in his extensive paper "On Retinitis Pigmentosa and Allied Diseases," *Roy. Lond. Ophthal. Hosp. Reps.*, Vol. XVII at p. 359, says "the well authenticated occurrence, at all ages, of cases where the classical symptom of night-blindness was either absent or unnoticed, or perhaps sometimes concealed, even when the retinal changes were strongly marked."

It will not be disputed, I think, that this article is the most complete in any language on the subject of the inheritance of retinitis pigmentosa.

1915.—Pedigrees of Colour-Blindness, by the late E. Nettleship, arranged by C. H. Usher.

Roy. Lond. Ophthal. Hosp. Reps., Vol. XX, pp. 93-107, 1915; 2 folding and one smaller pedigrees, 2 references.

1916.—A Corneal Spatula: an Instrument for use in removal of Deep-Lying Foreign Bodies in the Cornea.

Ophthal. Rev., Vol. XXXV, pp. 16-17, 1916.

For foreign bodies, deep in cornea but not projecting to anterior chamber, carefully worked out anatomically; light for dark objects and vice versa.

1916, March.—Choroideremia and Two Other Varieties of Night-Blindness in the Same Pedigree. With H. E. Smith.

Roy. Lond. Ophthal. Hosp. Reps., Vol. XX, pt. 2, pp. 157-174, March, 1916. Coloured drawings of the choroideremia case were reproduced by Dr. Julia Bell in the Treasury of Human Inheritance, 2, Nettleship Memorial Volume, pt. 1, 1922.

1920.—Enlarged Corneae in Goldfish (Carassius auratus).

Trans. Ophthal. Soc. U.K., Vol. XL, pp. 125-132, 1920. One sketch in text, and 15 rather unusual references.

1920.—Histological Examination of an Adult Human Albino's Eyeball, with a Note on Mesoblastic Pigmentation in Foetal Eyes. Two coloured plates with eleven paintings and an excellent bibliography, 20 references.

Biometrika, Vol. XIII, No. 1, pp. 46-56, October, 1920.

E. E. H.—*Brit. Jl. Ophthal.*, Vol. V, p. 283, 1921—says, "Careful serial sections were cut horizontally, no sections being lost. In none of them could a fovea be made out, but the retina, as in normal eyes, had several layers of ganglion cells at the macula. The macula had a yellow colour when the eye was opened. The pigmentation of the retinal epithelium resembled that in a normal eye, but was less in quantity. Mesoblastic pigmentation was entirely absent in the iris, ciliary body, and most of the choroid, only a few cells in the macular region containing any pigment. Usher points out that the defective vision and nystagmus found in albinos is probably mainly due to the absence of a fovea, and not, as has been suggested, to defective retinal pigmentation."

It is to be hoped that this valuable and original contribution may not elude the ophthalmic bibliographers of the future now that E. E. H. has recorded it in the *Brit. Jl. Ophthal.*

1921, July.—A Pedigree of Microphthalmia with Myopia and Corectopia. One pedigree chart in text, and 39 plus 11 references in the bibliography.

Brit. Jl. Ophthal., Vol. V, pp. 289-299, 1921.

A very helpful article for any future worker on the topic. Appearances so striking that W. C. S. suspected a child, born about 1935, and having the special features in the eyes, must belong to this same pedigree. A few minutes proved that this case belonged to a later period of this pedigree.

1923.—Cases of Metastatic Carcinoma of the Choroid and Iris. 7 text photos of micro sections, an analysis of 107 (plus the new 3) cases from the literature, tabulated; and a group of 32 references.

Brit. Jl. Ophthal., Vol. VII, pp. 10-54, January, 1923.

This scholarly article deals with three cases and covers clinical and pathological examinations besides, in one case, autopsy findings by Professor Shennan. The critical analysis is so comprehensive that it may be asserted this article will be a suitable jumping-off point for any future explorer in this field. It is more than appropriate that it should be placed after the fine tribute by Mr. J. B. Lawford to Edward Nettleship, in the British Masters of Ophthalmology Series. In this tribute one can see where many of the Usher traits were likely to have had their origin.

1924.—A Pedigree of Congenital Dislocation of Lenses.

Biometrika, Vol. XVI, pp. 273-282, 1924. 3 pages of pedigrees, and notes of some published cases for comparison with the present pedigree.

1924.—A Note on the Dog's Tapetum (lucidum) in Early Life. 2 references, no illustr.

Brit. Jl. Ophthal., Vol. VIII, pp. 357-361, 1924.

An original observation that the tapetum lucidum of the dog is not recognizable ophthalmoscopically for several weeks after birth, and that the early ophthalmoscopic appearances of the tapetum differ markedly from those seen in the adult animal. Puppies from ten different litters were observed. Some account of the conditions in the kitten's and cat's eyes is added.

1925, October.—A Pedigree of Epicanthus and Ptosis. 4 pages of Plates, photographic, exquisite; and 1 page with numerous pedigrees. Bibliography—general, 12 refs., and hereditary cases 12 refs.

Annals of Eugenics, Vol. I, Parts I and II, pp. 128-138, October, 1925. 2 pages are devoted to accounts of some previously published pedigrees.

An excellently illustrated and documented article, in recherché style.

Abstract by Lawford in *Brit. Jl. Ophthal.*, Vol. X, pp. 45-48, 1926.

1926, April.—Epithelial Cyst of the Sclera. One Plate of four photographs, two text micro-photographs.

Brit. Jl. Ophthal., Vol. X, pp. 177-180, 1926.

Sections of cyst wall and a careful chemical analysis of the fluid from the cyst help to fix this interesting case.

1926, April.—Frequency of Metastatic Carcinoma of the Choroid.

Brit. Jl. Ophthal., Vol. X, pp. 180-181, 1926. No illustr.

Short notes of a fourth case to be added to the article in *Brit. Jl. Ophthal.*, 1923.

1926.—Melanoma of Choroid.

Trans. Ophthal. Soc. U.K., Vol. XLVI, pp. 131-132, 1926.

1927, September.—Two Pedigrees of Hereditary Optic Atrophy. One text pedigree and one long insert pedigree, with 16 references.

Brit. Jl. Ophthal., Vol. XI, pp. 417-437, 1927.

Ped. A. is one of Leber's disease containing three affected males in one sibship, an affected first cousin, and certainly two—one a female—but probably four affected cases in previous generations.

Ped. B. contains sixteen individuals with double optic atrophy, of these fourteen are males and two females.

Pedigrees comparable in extent and on the same topic include that by Ritchie Russell and a Japanese one, Kawakami's.

1927, October.—An Analysis of the Consumption of Tobacco and Alcohol in Cases of Tobacco Amblyopia. Part I, General Discussion by C. H. Usher. Part II, Detailed Statistical Discussion by Ethel M. Elderton.

Annals of Eugenics, Vol. II, parts III and IV, October 1927. Part I from p. 245 to p. 265, including 111 References, and an Appendix—Report on the Results of Analyses of Samples of Tobaccos by J. F. Tocher, D.Sc., and a Report on the Results of Analyses of Samples of Tobaccos by John E. Ritchie, M.A., B.Sc., F.I.C., and two assistants.

A very important contribution to a subject of everyday interest, giving the results in 1,100 cases of tobacco amblyopia and in 500 pipe-smokers with sight unaffected, with several tables and most valuable analyses of the various tobaccos. 27 of the cases were women.

1928.—Presidential Address to the Ophthalmological Society of the United Kingdom. "Some Relationships between Animals' Eyes and Human Ophthalmology."

Trans. Ophthal. Soc. U.K., Vol. XLVIII, pp. liii-lxiii, 1928.

Some very interesting remarks on his wide experience of albinotic animal eyes, on his personal studies on the eyes and coats of winter-white birds and hares and stoats, together with some advice in regard to pedigree work in man and in animals. A unique exposé of the subject by the greatest authority on the topic.

1929.—Albinism in Dogs.

Biometrika, Vol. XXI, Parts 1-4, pp. 144-163, 1929. With Karl Pearson. See Mr. Lawford's note in *Brit. Jl. Ophthal.*, Vol. XIV, pp. 642-643, 1930 :—

"There are 19 pages of letterpress, 8 full-page plates, of which two" "are in colours, and two long pedigrees. It teems with facts and" "observations arranged with the meticulous care which character-" "izes the published work of the two authors."

1930.—Two Pedigrees of Retinitis Pigmentosa; I by C. H. Usher, and II by C. H. Usher and T. Shennan.

One large Plate covering the two Pedigrees. A few footnote references. *Annals of Eugenics*, Vol. IV, Parts I and II, pp. 215-231, April, 1930.

Pedigree I has 243 members in 6 generations with night-blindness in 37 individuals distributed in 14 sibships. Pedigree II is an extension of one by Hine, 1928.

1932, May.—Hereditary Entropion and Hereditary Changes in the Skin of the Eyelids.

Biometrika, Vol. XXIV, Parts I and II, pp. 1-20, May, 1932; together with four full-page Plates of photographs of cases, 3, 2, 4, 4 faces on the respective plates; 52 references, 14 smaller pedigree charts in text and one inset long pedigree.

1932, November. Coloured Areas in the Sclerotic. One Plate, a photographic reproduction of four water-colour paintings of eyes. It is regrettable that the originals were not copied in colour.

Brit. Jl. Ophthal., Vol. XVI, pp. 671-680, 1932, 27 references.

Shows the value of careful records and of paintings of such cases for future comparison. Six of the nine cases were re-examined, no great change had taken place, but definite changes had occurred in two cases.

1933.—Heredity and Eye Diseases—Opening Paper.

Trans. Ophthal. Soc. U.K., Vol. LIII, pp. 16-29, 1933. Some footnote references, four pedigree figures in text, and one large inset pedigree chart.

Some very interesting observations on his own experiences as well as from some of the literature.

1935.—Pedigrees of Hereditary Epicanthus.

Biometrika, Vol. XXVII, pp. 5-25, 1935, 8 references, 34 pedigree charts, 32 in text, and two full-page ones.

1935.—On a Few Hereditary Eye Affections—Bowman Lecture of the Ophthalmological Society of the United Kingdom.

Trans. Ophthal. Soc. U.K., Vol. LV, pp. 164-245, 1935. Numerous pedigree charts in the text and some photographs of cases of ptosis and epicanthus, with extensive bibliography, and with several Appendices, as in Mr. Nettleship's Bowman Lecture of 1909.

The subject-matter includes choroideremia, atrophia gyrata choroidéae et retinae, an unusual pedigree of retinitis pigmentosa, angiomatosis retinae and epicanthus. A very 'meaty' article on the topics dealt with.

1936.—Heredity.

The Eye and its Diseases, edited by Conrad Berens—Philadelphia and London, pp. 321-2, 1936; 3 sample pedigree charts, 2 references.

Some abstracts and reviews, some at least initialled, in the *Ophthal. Rev.*; some work quoted in the Nettleship Bowman Lecture, *Trans. Ophthal. Soc., U.K.*, 1909; and some contributions, partly already published, 48, partly new, 9, pedigrees, in the Treasury of Human Inheritance, Nettleship Volume, Editor, Karl Pearson, *i.e.* 57 pedigrees by him in the total of 1249 pedigrees, many of which are flimsy sketches compared with his full-dress pedigrees, must be added to the List given, a list which is only as complete as one can make it at the present juncture.

REPORT ON A CASE OF LYMPHOMA OF THE ORBIT

BY

MONTAGUE L. HINE

LONDON

THIS case is recorded because of its rarity, and the very satisfactory result of the treatment advised at a late stage.

The patient, a spinster aged 58 years, was first seen by Mr. Tulloh of Bournemouth in January, 1938. She then had a history of increasing swelling of the left upper lid for two years. In April, 1938, the orbit was X-rayed, with negative result, and in November, 1938, Mr. Tulloh made an exploratory incision into the orbit, finding that the growth extended far back. A portion he removed for examination was reported to be "lipoma," and he

advised a further opinion. This advice she did not, however, take, and she did not report back till early in 1941. Meantime her blood had been examined, and the Wassermann reaction found weakly positive, on which account she had had a course of "injections," which had had no effect on the swelling in the orbit,

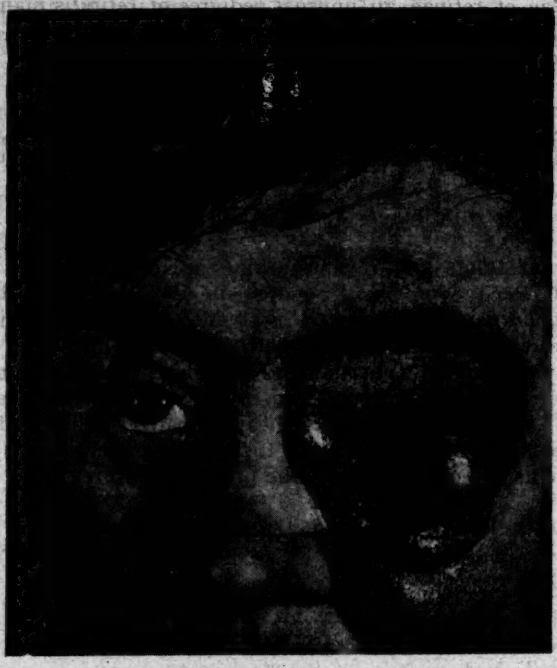


FIG 1.

September 29, 1941, before treatment.

which had steadily increased in size, causing some proptosis and downward displacement of the eyeball (Fig. 1).

In July, 1941, Dr. Ross, who then saw her in Mr. Tulloh's absence on War Service, persuaded her to see me, which she did.

I advised complete investigation, and took her into my E.M.S. ophthalmic base at Stanmore for this to be carried out.

There was, at that time, secondary optic atrophy, with vision of bare P.L. only, in the left eye,

X-rays showed infiltration of the frontal sinus and ethmoids.

The Wassermann reaction was reported as "weakly positive," and the cerebro-spinal fluid as "practically normal."

Mr. C. P. Malley, who was the E.N.T. consultant, advised a biopsy, and we removed a small portion of the anterior part of the growth, which in parts was rather cystic in character, under local anaesthesia.

Our sector pathologist, Dr. Dorothy Vaux, reported as under: "The tissue is composed of closely packed cells, resembling lymphocytes without any definite arrangement. Mitoses are very

FIG. 2.

October 28, 1941, after treatment.

few. Numerous blood vessels are present, and there is evidence of scattered small old and recent haemorrhages. Silver impregnation shows a moderate number of reticulin fibrils. The histology is compatible with a diagnosis of simple lymphoma." This opinion was subsequently confirmed by others, though not universally accepted.

Mr. Malley was able to arrange with Dr. Allchin, of the Westminster Hospital, to have her admitted there to get deep X-ray therapy. To Dr. Allchin I am indebted for the two photos taken before and after treatment, and also for details of dosage. He

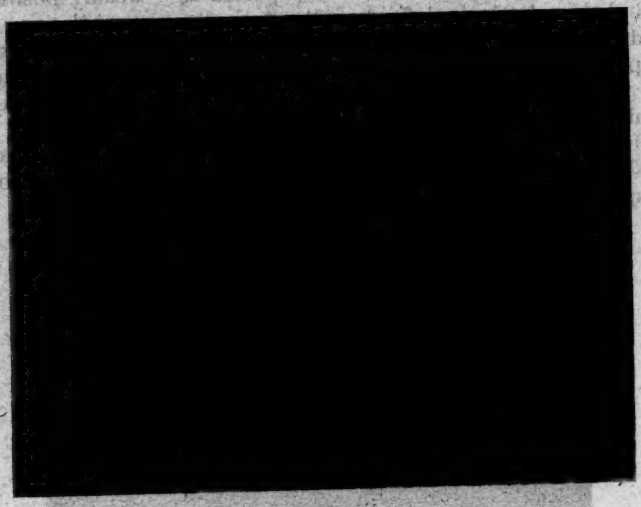


FIG. 3.

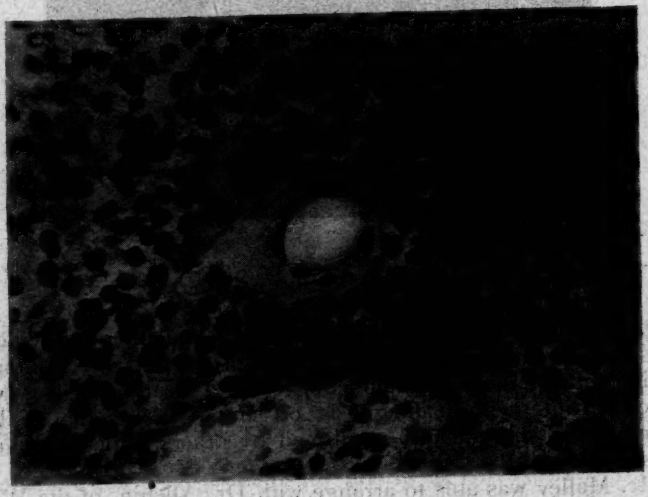


FIG. 4.

writes: "This was a most interesting case, and is the first of its kind which I have seen in my twenty years of practice; its response to irradiation was just what we should have expected.

"After the first week we had to suspend treatment on account of a mechanical breakdown and by this time she had only had a minute dose, yet the tumour was reduced to half its size. She was treated by X-rays at 200KV with two fields: (i) 5 cm. circular directly anterior; (ii) 6 x 8 cm. field laterally. The dose given in each field was 1600 units with a thoraeus filter. The tumour dose in this case cannot have been much above 1500 units, which is very small."

On November 18, 1941, she reported to me before leaving London, and her appearance was as shown in Fig. 2. The optic nerve had been involved for too long to expect any recovery of vision, and this was still as before.

She was seen by Dr. Ross in Boscombe on February 12, 1942, and he reported that "everything seems quite satisfactory. There is still a very slight exophthalmos of the left eye, but it is quite slight; there is no other evidence of any trouble in the orbit and the eye movements are good."

Other suggestions as to the nature of the growth were made, including "chronic inflammatory," which would not so well account for erosion of the bone and invasion of the sinuses, or for magical disappearance under deep ray therapy in small dosage, and "Boeck's Sarcoid," which sometimes disappears spontaneously.

I am grateful to all concerned in the investigation and treatment of this case, and hope that other similar cases will be seen and treated before pressure has produced irrecoverable atrophy of the optic nerve.

SCLERO-KERATITIS FOLLOWING PHOSPHORUS INJURY OF THE EYE

BY

Wing-Commander T. KEITH LYLE, R.A.F.V.R.

and

Squadron Leader ALEXANDER G. CROSS, R.A.F.V.R.

A SEARCH of the ophthalmic literature has revealed no record of phosphorus injuries of the eyes. This case is reported because the initial injury is rare and because the long subsequent history,

resembling delayed mustard gas keratitis, has caused material damage to the eyes.

Case Report

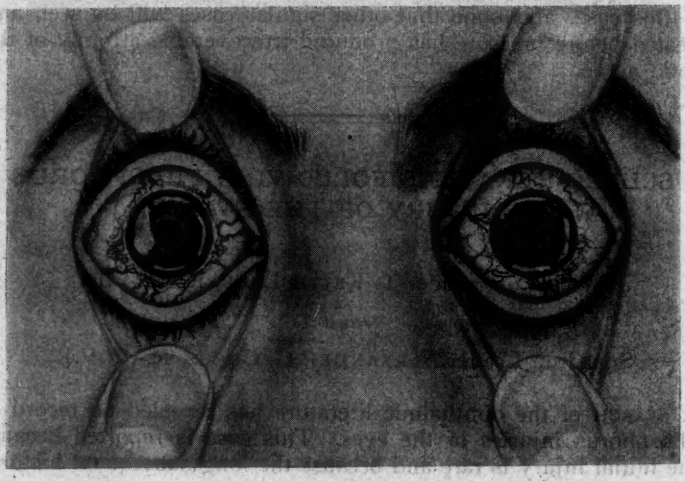
R.K., Airman, aged 43 years. *History.*—He served in the Royal Flying Corps in the last war (1914-18). In April, 1918, while he was removing a barrel of phosphorus (used for providing smoke screens) from the water storage tank, it exploded, causing burns of the face, eyes and body. He was admitted to a hospital at Dartford, and apparently recovered in about two weeks. The eyes, subsequently, were red and sore at times, but he did not report to his Medical Officer. In 1921, after leaving the Air Force, he had a severe attack of inflammation of the eyes, lasting about ten months. The eyes were red and painful, and he could not look at a bright light. Similar attacks, though milder in nature, occurred in 1926, 1931 and 1938. The last attack started in 1941, and still persists. His service in the last war (1914-1918) was confined to this country, and it is certain that he was never in contact with mustard gas.

Examination

Right vision 6/9 $\bar{c}-0{\cdot}25$ D.Sph., $+0{\cdot}5$ D.Cyl., Axis $120° = 6/6$ pt.

Left vision 6/12 $\bar{c}+0{\cdot}5$ D.Sph., $= 6/9$.

The eyelids are normal and the ocular movements full. Episcleritis and scleritis of both eyes. The corneae show opacities



which tend to be close to the limbus, though none actually coalesce with the sclera (see plate). They are situated in the deep layers of the substantia propria and vascularisation is slight except in connection with the largest opacity which is in the right eye and extends anteriorly to the membrane of Bowman. The vessels passing to this are deep in position. Slit-lamp examination shows minute punctate opacities scattered throughout both corneae in the deeper layers of the substantia propria and the presence of crystalline deposits in the scars. There are no " K.P." or synechiae, and no pigmentary deposit on the anterior lens capsule. The media and fundi are normal. W.R. normal. Examination of nasal sinuses, throat and teeth for infection, shows no abnormality. Radiological examination of the chest is normal. Faint superficial scarring is present on both arms, and on the front of the chest as a result of their involvement in the original accident.

Discussion

The history of this case, showing recurrences separated by long intervals, resembles mustard gas keratitis, but the clinical features are different. The main lesion is a scleritis and there is no evidence of past corneal ulceration. The corneal scars are, with one exception, deep in the substantia propria, and the irregular vascularisation of the cornea described by Mann and Pullinger in cases of gas keratitis, is not present. The condition of " marbling " of the conjunctiva is absent. The clinical findings in this case differ from the usual type of sclero-keratitis in which the corneal opacity is in continuity with the sclera, and in which uveitis is present. The state of the cornea indicates a degenerative condition and it is suggested that this originated when his eyes were injured with phosphorus twenty-two years ago.

We should like to express our thanks to the Officer Commanding a Royal Air Force Hospital and Air Commodore P. C. Livingston, O.B.E., Consultant in Ophthalmology, for permission to publish this case.

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TWO CASES OF ORTHOPTIC INTEREST

BY

E. B. ALABASTER, C. RUDD *and* M. TREE

FROM THE BIRMINGHAM AND MIDLAND EYE HOSPITAL

THE utility of modern orthoptic examinations in diagnosis is undoubtedly beyond dispute. The position of orthoptic treatment in our armamentarium of ocular therapeutics must, however, be continually subject to critical survey in the light of experience. This continuous readjustment of outlook necessarily obtains in all fields of therapeutic endeavour, and is especially called for in the case of recent methods in order to produce a practical balance, between enthusiasms, possibilities. and cold facts. For this reason we feel that the details of the following two orthoptic cases are worthy of publication, and also because we are inclined to believe that more adequate use should be made, than heretofore, of the data obtainable from orthoptic examinations in the diagnostic sphere.

The first case is one with a small degree of convergent strabismus which had prolonged orthoptic treatment and whose history reveals considerations of interest. Master A. G. F. L. first attended this Hospital at the age of 2 years on March 11, 1931, and was seen by Mr. Rudd who noted a left convergent strabismus and ordered atropine for later refraction. On March 18, 1931, the following correction was ordered:—

Right.	+2·0 sph.	*Left.*	+2·50 sph.
	+1 0 cyl. axis 170°		+1·50 cyl. axis 165°

The next attendance was on February 27, 1935, at the age of 6 years and the patient was referred by Mr. Rudd for orthoptic training.

Orthoptic report. Right vision=6/12; with glasses=6/9. Left vision=6/18; with glasses=6/12.

Angle of Deviation. +12° without glasses and +6° with glasses. The left eye tends to slip in to about 25° accommodative type of squint.

The patient attended the Orthoptic Department continuously from February 27, 1935, till November 24, 1937, except for an interval between September 24, 1936, till November 19, 1936, when he was away with appendicitis. In all he received 197 treatments, each of 20 minutes duration. The treatment included wearing an occluder on the right lens early in 1935; later in the "stripping" of the right lens; and exercises to combat left eye suppression. In spite of this the condition showed only slight change. The refraction was repeated on November 25, 1936, and the correction ordered gave the following visual results:—

Right vision, with $\frac{+1{\cdot}50 \text{ sph.}}{+0{\cdot}75 \text{ cyl. axis } 10^{\circ}}$ =6/6.

Left vision, with $\frac{+1{\cdot}25 \text{ sph.}}{+0{\cdot}50 \text{ cyl. axis } 105^{\circ}}$ =6/9 partly.

On November 25, 1937, the orthoptic report was:—

Right vision=6/9. With glasses=6/6.
Left vision=6/6. With glasses=6/6.

Deviation 7° without glasses and 4° with glasses. Fusion at +5° and abduction to 0°. The duction was regarded as poor, and insufficient to enable stereoscopic vision to be maintained; and as the fusion was unsteady with a tendency to left suppression, in spite of the long course of orthoptic treatment received, it was decided that further orthoptic exercises should be discontinued and the case was discharged as a cosmetic result. However, the patient attended twice in January 1938.

There was no further attendance at the Orthoptic Department from January 22, 1938, till December, 1941, when he came up to the out-patients because he had broken his spectacles. On December 3, 1941, refracted under H. and C. and on December 6, 1941, P.M.T. gave:—

Right vision, with $\frac{+0{\cdot}50 \text{ sph.}}{+1{\cdot}0 \text{ cyl. axis } 10^{\circ}}$ =6/6.

Left vision, with +0·50 cyl. axis 80°=6/6 ordered.

The patient was seen by Mr. Tree who asked for an Orthoptic report.

Orthoptic report.—Maddox rod fixing with right eye gave 10$^{\Delta}$ esophoria. Maddox rod fixing with left eye gave 4$^{\Delta}$ esophoria. Maddox wing test=11$^{\Delta}$-15$^{\Delta}$ esophoria; Worth's 4 lights. Simultaneous macular perception with fusion (S.P.2) at 0° with no hyperphoria. Ductions fair (−5° to +25°) full stereoscopic vision, that is full binocular vision with esophoria, but no symptoms.

On *April* 14, 1942, examination with the Maddox wing test showed a further decrease of the esophoria, *i.e.* 5$^{\Delta}$ esophoria without glasses and 1$^{\Delta}$ esophoria with glasses and no hyperphoria. *The cover test*, however, showed the presence of movement. Each eye moved outwards to take up fixation on removing the cover. This was more marked on uncovering the left eye. In addition the movement was less in each eye when glasses were worn.

The patient is alert and intelligent, and his mother states that he has been very co-operative throughout all his treatment. He is now 13 years of age.

His mother also states that when he was discharged in November, 1937, she noticed that when he removed his spectacles in the evenings preparatory to going to bed, his left eye would turn in, but during the course of the last few years this tendency disappeared.

Discussion

It is difficult to be dogmatic about the effect of orthoptic exercises in this case. Whether or not the ultimate improvement after discharge was related to the treatment previously received, or whether such improvement was entirely dependent on the natural decrease of hypermetropia, we leave open to discussion. In this connection it is to be regretted that the earlier orthoptic reports were not as full as the more recent. However, we think it best to allow the mere facts recorded to speak for themselves.

Here, therefore, is a case with a small degree of convergent strabismus (6°-12°) of early onset (2 years), which commenced orthoptic treatment at the age of 6 years, with good vision in both eyes, and attended for 197 treatments during a period of 2 years and 9 months, and at the end of that time was discharged with a small degree of squint still present (4°-7°) with poor ductions and unsteady fusion, and to be regarded merely as a cosmetic result. The patient received no further treatment for 4 years except for wearing his spectacles, and then returned at the age of 13 years with no squint present, and with full stereoscopic vision, but with an esophoria remaining which is causing no symptoms.

The second case provides a striking example of the wide adaptability possible in the co-ordinated use of both eyes. Considerations

CASE 2.

of the vast incidence of asthenopia, and the stated delicacy of the fusion faculty would lead us to believe that such adaptability is low, but here we present a case whose gross displacement of one eye to the extent of 1 centimetre following a motor accident, was followed by the retention of stereoscopic vision, with the entire absence of discomfort of any kind.

The patient, Mr. A. A., first attended here under the care of Mr. Alabaster on May 8, 1941, when he was 18½ years of age. He stated that he had been involved in a motor car accident on March 21, 1941, was ? unconscious for a short time and was admitted to the Birmingham General Hospital suffering from a fractured skull, retained for 2 weeks, and then transferred to the Stafford Emergency Hospital for 4 weeks. He had had an incised wound over the right eyebrow and this had been sutured. He had noticed diplopia for 2 days only after being unbandaged, and there had been no recurrence since. He stated that he had come to the Eye Hospital because he was worried by the marked downward displacement of his right eye, and because he had noticed that on closing the left eye objects seemed to be very far away.

On examination the photographs reveal something of the condition present:—

Right vision=6/18; with +0·50 sph.=6/12.

Left vision=6/6.

Oblique scar present over the right eyebrow, the right palpebral aperture is considerably lower than the left, so that the downward

displacement of the right eye is about 1 centimetre. There is also enophthalmos of the right eye so that measurements with Hertel's exophthalmometer showed the apex of the right cornea at 16mm., and the left cornea at 20mm. from the orbital margin. There is flattening of the right side of the face, and palpation of the right orbital margins showed irregularity at the junction of the middle and inner thirds along both the upper and lower margins.

The X-ray films showed fracture of the right malar bone passing obliquely down and out from the orbital margin, and a fissured fracture in both the roof and floor of the right orbit passing directly backwards from the orbital margins at the sites of irregularity already noted on palpation. The right antrum was somewhat opaque and this was thought to be possibly due to haemorrhage.

The first orthoptic report on May 8, 1941, stated:—Fusion at 0° with ductions from −2° to +35°. Good stereoscopic vision. 4 Worth's lights looking straight ahead. Maddox rod showed tendency to esophoria and slight right hyperphoria. By July 3, 1941, the patient's only complaint was that distant objects seemed to vary in size, appearing to get smaller and then enlarging. Apart from this he had no headaches and no diplopia. No head tilting was observed.

On January 29, 1942, as examination with red and green goggles revealed a tendency to diplopia in the extreme oblique peripheries of the field, but no diplopia in the horizontal plane, he was sent for more complete orthoptic examination and for a report on the field of diplopia.

Second orthoptic report. Fusion at +4° with ductions from 0° to +34°. Full stereoscopic vision.

Maddox rod. 1$^{\Delta}$ esophoria with no hyperphoria looking ahead and fixing with either eye.

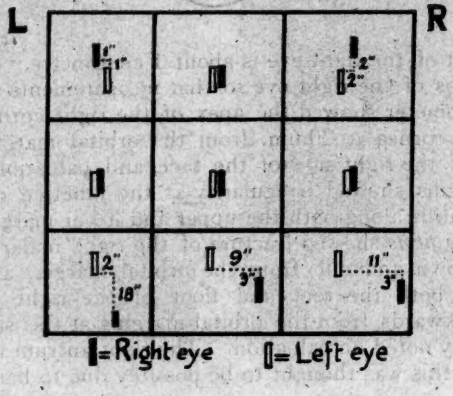
6$^{\Delta}$ esophoria with 10$^{\Delta}$ right hyperphoria on looking downward and fixing with either eye.

2$^{\Delta}$ esophoria with 1$^{\Delta}$ left hyperphoria on looking up and fixing with either eye.

Worth's 4 dot test. Looking ahead 4 lights. Looking down 5 lights r/l; looking up 5 lights l/r.

Field of diplopia revealed displacement in the extreme oblique positions, especially in the downward directions and implicating the following muscles of the right eye—the superior and inferior obliques, and the superior and inferior recti.

The patient, who is engaged on aeroplane engine maintenance, stated that he ordinarily notices no diplopia, drives a car to and from his work without trouble, occasionally rides a motor cycle, and as part of his work he does aeroplane testing in flight, when he takes



over the controls. It must be emphasised that this patient has had no orthoptic training at any time, and in spite of the great displacement of his right eye, experienced only a minor degree of diplopia as a temporary phenomenon. Since then he has been proved to possess good stereoscopic vision sufficient to have adequate control of a motor cycle, a motor car, and an aeroplane in flight. The photographs show the displacement of the right eye.

We wish to record our indebtedness to Miss Bennett and Mrs. Edwards of the Orthoptic Department for their very ready assistance and co-operation in the elucidation of these two cases. In addition we wish to thank Dr. H. Black, Radiologist to the Hospital for his opinion on the X-ray appearances in Case 2. Our thanks are also due to Mr. W. E. Meggeson for kindly photographing this patient.

THE USE OF M. AND B. 693 IN POST-OPERATIVE OCULAR SEPSIS

BY

ALLISTER M. MACGILLIVRAY

DUNDEE

THE following case is of interest as illustrating the efficacy of M. and B. 693 in post-operative ocular sepsis.

The patient, a woman aged 52 years, was operated on for simple chronic glaucoma. The left eye was trephined, with a peripheral iridectomy, the conjunctival flap being stitched into position with a continuous silk suture. The suture was removed on the fourth day. On the morning of the seventh day, the conjunctival wound was found to be injected and oedematous. By 6 p.m. on the same day, flakes of pus could be seen adhering to the wound, and several small conjunctival haemorrhages had developed. The whole of the upper bulbar conjunctiva was injected and oedematous. Pus could be seen draining through the trephine opening into the anterior chamber. The aqueous was turbid, and the visual acuity reduced to 1/60. The frequent instillation of atropine sulphate 1 per cent. and argyrol 10 per cent. was ordered, and half hourly bathings with really hot boric lotion. Two tablets of M. and B. 693 were given at 6 p.m., and repeated every four hours. This treatment was carried on throughout the night. Fortunately, in spite of intense nausea, the patient was able to retain the tablets. The following morning, the wound was found to be clear of pus. The injection and chemosis of the conjunctiva had subsided, and

the aqueous was now only slightly turbid. The vision had improved to 6/24. The administration of M. and B. 693 was continued until late afternoon, when it had perforce to be stopped, as the patient could no longer retain the tablets. By evening, that is, 24 hours after the first signs of pus formation had been observed, all signs of inflammation had disappeared. Atropine and argyrol drops were continued, thrice daily, for 14 days, and recovery was uneventful. Six weeks later, the trephine opening was draining well, the tension was normal, and the vision had improved to 6/5.

I am convinced that such a highly dramatic recovery could only be attributable to the early and intensive administration of M. and B. 693. Had the drug not been employed, the eye must inevitably have been lost as the result of an acute endophthalmitis. Such a result would have been little short of tragic as the glaucoma was only in an early stage, and the vision was 6/5 before operation, the patient's other eye being an old glaucomatous one, with poor visual acuity.

HOSPITAL LIGHTING FOR PROTECTION IN WAR TIME*

BY

C. E. FERREE *and* G. RAND

PROTECTIVE war-time lighting is essentially low-brightness lighting. The light should be evenly distributed and well diffused, and all glare and high brightness should be completely eliminated from the source of light, the fixtures and every part of the illuminated field. These features are not only needed in general for protection in war-time but are essential to the comfort and welfare of the patients in hospital lighting, particularly in the lighting of hospital wards. As a special war-time protection there should be auxiliary night light of low visibility and with an adequate proportion of wave-lengths that have a low power of penetrating the external atmosphere. For convenience the provisions for attaining these objectives should all be embodied in the same lighting fixture. They are all embodied in the fixture shown in Figure 1.

This fixture was devised by us at the request of the director of one of our leading hospitals for a glareless light for use in hospital wards. Fortunately, as noted above, the principles involved in good hospital lighting are pretty much the same as are needed for protection in war-time. That is, the provisions that

* From the Research Laboratory of Physiological Optics, Baltimore, Maryland.

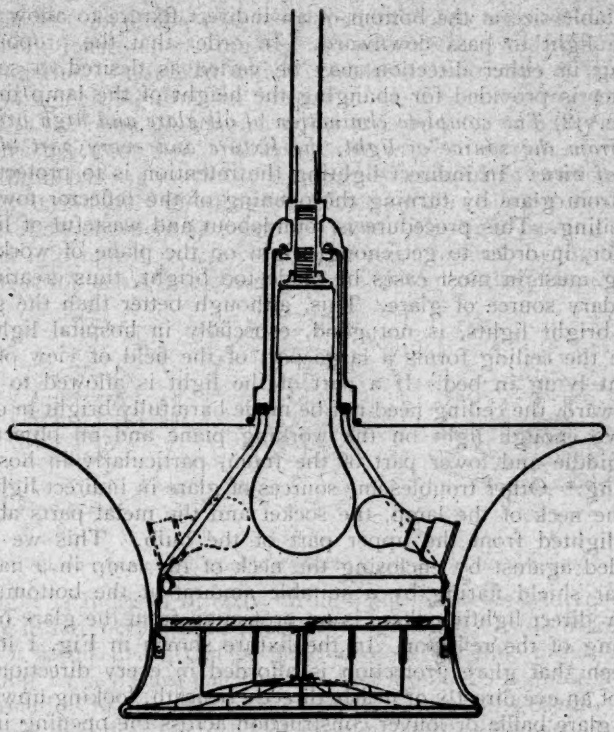


FIG. 1.

The louvered direct-indirect fixture, vertical section.

will give comfort to the eyes of patients lying in bed will give low illumination, complete elimination of glare and high brightness from the source, the fixture and all parts of the field of view, and in addition will tend to confine the light to the room illuminated. The lighting given by this fixture is a new type which may be called louvered direct-indirect. The purpose was to devise a fixture which would combine all the advantages of direct and indirect lighting and at the same time correct as far as possible their faults and deficiencies.

Some of the results achieved are:—(1) *A better balanced distribution of light than is obtained in either direct or indirect lighting.* In indirect lighting the ceiling and upper part of the room are too light and the lower part is too dark. In direct lighting the converse is true—the lower part of the room is proportionately too light and the upper part and ceiling are too dark. In the fixture shown in Fig. 1 it will be seen that there is an aperture

of suitable size at the bottom of an indirect fixture to allow part of the light to pass downward. In order that the proportion passing in either direction may be varied as desired, a socket adjuster is provided for changing the height of the lamp in the fixture. (2) *The complete elmination of all glare and high brightness from the source of light, the fixture and every part of the field of view.* In indirect lighting the intention is to protect the eyes from glare by turning the opening of the reflector towards the ceiling. This procedure is roundabout and wasteful of light. Further, in order to get enough light on the plane of work the ceiling must in most cases be made too bright, thus creating a secondary source of glare. This, although better than the glare from bright lights, is not good, especially in hospital lighting where the ceiling forms a large part of the field of view of the patient lying in bed. If a part of the light is allowed to pass downward, the ceiling need not be made harmfully bright in order to give enough light on the working plane and on objects in the middle and lower part of the room, particularly in hospital lighting.* Other troublesome sources of glare in indirect lighting are the neck of the lamp, the socket and the metal parts above, high-lighted from the upper part of the bulb. This we have guarded against by enclosing the neck of the lamp in a narrow tubular shield flaring by a suitable amount at the bottom. In totally direct lighting there is no protection from the glare of the opening of the reflector. In the fixture shown in Fig. 1 it will be seen that glare protection is afforded in every direction but that of an eye directly or nearly directly beneath, looking upwards, by a glare baffle or louver construction across the opening in the bottom of the fixture. The protection is made complete by surfacing all parts of the louver in matt black. So surfaced, no higher brightness than a soft silvery sheen is seen, even when a high wattage lamp is used. When a lamp of a wattage suitable for hospital lighting is used, no higher brightness is in the patient's field of view than that of a softly, evenly illuminated ceiling. The effect on the patient is gratifying, particularly in hospital wards, the satisfactory lighting of which has heretofore presented an unsolved problem. Three types of the louver or baffle construction are shown in Fig. 2. (3) *A high degree of diffuseness of light.* The upward component of light having undergone one or more reflections before it reaches the working plane and the eyes of the patient, has been given excellent diffusion. This is one of the best features of indirect lighting. The downward component of light passes through a diffusing means which should

* In this connection it may be said that enough light is had directly beneath the fixture to read a thermometer, to make or read notes, etc., even with the small amount of illumination that is required for complete comfort in hospital wards. This would be wholly impossible with indirect lighting.

be the best obtainable and positioned as closely as possible above the baffle construction. In these two ways a soft, evenly distributed illumination is obtained which completes the picture of comfortable, hygienic lighting for hospitals. (4) *The confinement of the light to the room illuminated as far as is possible with any fixture construction that would be acceptable in good hospital lighting.* The light passing vertically upwards is reflected downwards, and the light obliquely upwards is reflected by the ceiling to the upper walls and from there back into the room. The light passing downwards is confined to the vertical, or near vertical, by the louver construction across the opening in the bottom of the fixture. Thus

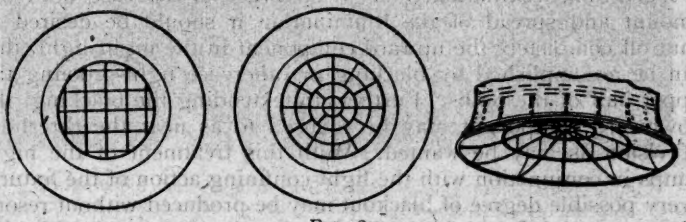


FIG. 2.

Three types of louver or glare baffle construction, bottom view.

no light is radiated directly through the windows and comparatively little reflected light passes through them. Little more than this, it seems to us, can be done towards war-time protection in lighting by a fixture construction that would be suitable for the illumination of hospital rooms and enclosures in general.

There is a pressing need in hospital lighting for an auxiliary night light of such low intensity that it will not prevent patients from sleeping or disturb patients who are asleep. In the fixture shown in Fig. 1 this is provided for by two small lamps in diametrically opposite positions within the fixture. These lamps should be of the lowest possible wattage and on a separate circuit from the primary lamp. Two are used instead of one so that no shadow will be cast on the ceiling by the primary lamp. In order that the night light shall have low power to penetrate the external atmosphere for war-time protection, the bulbs should be of dark blue glass or be coloured by a dark blue, heat-resisting dip.*

* Besides penetrative power there should also be taken into consideration the eye factors: the comparative sensitivity of the eye to coloured lights at very low intensities, visual acuity at low intensity, and the adaptation factors. Principally because of the eye factors, deep red has been suggested as an alternative to dark blue light. This however, would hardly be acceptable in hospital lighting. We have used with considerable satisfaction light approximating the colour of a low-brightness kerosene flame for a night light. This is not too unpleasant and is distinctly somnolent. The possibility of using heavily frosted colourless bulbs should not of course be completely ignored. However, without the use of colour in the bulb it is difficult to get light of sufficiently low intensity with the lamps that are available.

In addition to its protective value this type of illumination, when the intensity is very low and the bulbs are suitably coloured, has the advantage of giving a dim moonlight effect which is rather soothing and somnolent to the patient and of differing little in colour from the exterior illumination on a moonlight night. With this combination of night lamps and fixture when the light is made of the lowest possible intensity, little if any special curtaining is needed to give an effective blackout. The combination is more than adequate for what is called semi-blackout lighting. Ordinary blackout devices are difficult to provide and manage in a hospital for many reasons—convenience of operation, sanitation, continuity of operation, ventilation, etc. If in order to decrease both the amount and spread of the illumination it should be desired to shut off completely the upward component in the night light, this can be accomplished by blacking or otherwise light-proofing the upper half of the bulbs. Further, by extending the blacking, the downward component may be reduced to as near the threshold of vision as may be wanted. With this treatment of the night lamps in conjunction with the light-confining action of the fixture, every possible degree of blackout may be produced without resorting to special curtaining. The lamps that are used with this method of controlling the intensity and spread of the illumination may of course be colourless or of any colour that is preferred.

The need for protective lighting in hospitals is acute. Also a protective provision in the lighting itself is of great value in the night lighting of many places. As already indicated, there is, we believe, an important need for the special development of louvered, low-brightness lighting for protection in time of war.

A CASE OF MELANOTIC SARCOMA OF CONJUNCTIVA

BY

HARRIS TOMKIN

DUBLIN

A FEMALE patient aged 73 years presented herself for examination at the Eye Dispensary, County Hospital, Wexford, on February 10, 1942. She complained of a swelling on the left eye which she first noticed about 12 months ago as a small black spot. It gradually increased in size. On examination, a pear-shaped tumour was seen projecting forward between the outer third of the left eyelids. Its base did not extend to the limbus but was about 2 millimetres lateral to it. From base to apex it measured 8 mm. and transversely

the tumour was 6 mm. It was very deeply pigmented as regards the proximal 3 mm. and likewise at the distal end for 2 mm. but the intermediate part was less pigmented. The conjunctival vessels were dilated and overran the surface of the tumour. Some pigmented spots were seen in the conjunctiva just outside the limbus

Stereoscopic photograph of case showing tumour projecting through lids and greyish area of cornea in its neighbourhood where abrasion had taken place.

Photograph after removal of the growth.

at about "5 o'clock." In this area the conjunctival vessels were again injected.

The cornea, in the neighbourhood of the tumour was abraded, probably by the tumour overhanging it.

The skin over the left zygoma showed a semilunar patch of pigment about half the size of a florin. According to the patient this pigmented area had been present for the last ten years, and had not altered in size.

The patient was admitted to the Royal Victoria Eye and Ear Hospital, Dublin, and I incised the conjunctiva with curved scissors

on the temporal side of the tumour and undermined it to the limbus. Both the tumour and the pigmented area situated near the limbus at about "5 o'clock", came away with the conjunctiva.

I saw the case again a month later. The eyeball was perfectly normal except for a small nebula of the cornea where it had been abraded by the tumour.

MICROPHOTOGRAPH A (×200) shows the epithelial and sub-epithelial portions and anterior part of the growth.

The tumour was examined by the pathologist to the Royal Victoria Eye and Ear Hospital, Dr. McCrea, who has kindly given me this report, together with the photographs of the sections.

The tissue was fixed in Zenker's solution and embedded in paraffin. Sections were stained with haematoxylin and eosin.

The tissue sectioned is roughly circular in outline. The major portion is covered by stratified epithelium several layers thick and the remainder is enclosed in a delicate fibrous capsule. The superficial layers of the epithelium have degenerated.

The sub-epithelial layer, in extent from one-and-a-half to twice

the thickness of the epithelium, comprises a fine reticular matrix, in which are scattered here and there, red blood cells, thin walled blood vessels, a little scattered pigment both intra and extra cellular, and some tumour cells. Beneath this is the main mass of the neoplasm, consisting of spindle cells of varying sizes. These are

MICROPHOTOGRAPH B (×45) shows the main tumour mass. Pathological Diagnosis—Epibulbar Sarcoma.

mostly arranged in bundles in the long axis of the cell, whilst here and there they have been cut across at right angles to their long axis. There are occasional cells containing pigment, and some extra-cellular pigment is present also. On the whole, however, pigmentation is conspicuously absent.

The tumour matrix is a very delicate one. Primitive bloodvessels are numerous.

SOME OBSERVATIONS ON THE SURGICAL TREATMENT OF CONCOMITANT STRABISMUS

BY

HOWARD PRICE FOLGER, M.D. C.M.

KINGSTON, ONTARIO

IN the surgical treatment of concomitant strabismus any procedures which will aid in deciding with which muscle or muscles we should deal and which operation or operations should be chosen, are of advantage. Anything that will assist in making results more exact, or that will simplify or smooth the way, for operator or patient, is to be desired. With this in view this paper presents certain points, most of which are not new but some of which are often forgotten. Many of these points have been stressed from time to time by White, Jameson and others to whom I am indebted.

The first requisite in dealing surgically with a case of strabismus is a thorough pre-operative examination. This should be comprehensive enough to include:

1. An estimation of the visual acuity, and refraction under a cycloplegic.

2. Estimation of the near point of convergence.

3. Estimation of the deviation for distance and near in the six cardinal fields.

4. Estimation by the screen comitance test of the ocular motility and any associated vertical deviation.

Estimation of Convergence Near Point.—The near point of convergence may be estimated by utilizing a small spot on a card (or the head of a pin) as a point of fixation. This is brought toward the eyes and the point at which the non-fixing eye diverges (relative convergence near point) is noted.

The measurement is made along the intracentral base line from the anterior focal point (13·5 mm. in front of the cornea). As the centre of rotation is 11·5 mm. behind the cornea, 25 mm. should be added to the amount as measured by the millimetre rule.

Estimation of Deviation for Distance and Near in the Six Cardinal Fields.—By Screen Test.—To estimate the deviation for distance the patient is made to fix at 20 feet. A card is then passed across his face, covering first one eye, then the other. In convergent squint, prisms, base out, are placed before either eye until no movement outward can be detected when the card is moved from one eye to the other. Divergent squint is measured

by prisms placed base in and hypertropia by prisms base down before the higher eye (or base up before the lower).

The test is then repeated with fixation at 33 cm.

Next, fixation is made in each of the six cardinal fields and the deviation measured by prisms in the same way.

Screen Comitance Test

The screen comitance test will give further information as to paralysis, contractures and secondary deviations. In making this test a card is held so that the patient sees the object of fixation first with one eye, then with the other, while the examiner watches both. It is carried out in the six cardinal fields.

Hirschberg's Test

In cases of squint in young children who will not fix the test object Hirschberg's test is useful. A small electric light is held about a foot in front of the patient's face and the position of the light reflex on the cornea noted. If this is at the temporal edge of the pupil squint is about 15 degrees; if midway between margin of pupil and limbus, about 30 degrees; if at limbus about 45 degrees.

In adults, where vision of one eye is very poor or a central scotoma makes fixation difficult, perimeter measurement of the deviation, or Hirschberg's test may be used. Although not as accurate as prism measurement, still from a practical standpoint, perimeter measurement of the deviation plus a careful study of the other factors involved, will give an excellent background on which to base operative procedures.

Choice of Operation

With the above information at hand we are in a position to form some opinion as to the type of squint and which muscles should be surgically altered. Where possible, the muscles at fault are those with which we should deal.

In cases of convergence excess some form of operation to reduce the effectiveness of the interni is indicated. My preference here is for the Jameson recession operation, rather than tenotomy. Thus, if the squint is more marked for near than for distance, and if it is reduced by the instillation of a mydriatic and with a plus correction we know that it belongs to the convergence excess type and recession of one or both interni is indicated. Along with this we should consider the distance of the convergence near point. The closer the convergence near point, the more the power of

the interni should be reduced and the farther off it is the less should be the interference.

In cases where the near point is very remote (say 80-90 mm.) no operation which would weaken the action of the interni should be undertaken. In this case operation on the externi only should be done.

In convergent squint, cases of divergence insufficiency will show themselves by the squint being greater for distance than for near, or about the same. In these cases operation should be designed to increase the power of the weakly acting externi.

In many instances both weakening of the interni and strengthening of the externi may be indicated, but the interni should never be weakened more than the amount of the convergence near point would seem to allow.

White* has stated that vertical deviations if marked, should be corrected first, except where lateral strabismus is much greater than the vertical and is not lessened by prismatic correction of the vertical deviation in making tests.

The actual operation chosen depends greatly on the preference of the individual operator. Too much stress has been laid at times on minor differences in suturing and incisions and the broad principles neglected. To increase the acting strength of a muscle I prefer a resection operation ordinarily. If the muscle is very attenuated and feeble I choose a capsulo-muscular advancement as a rule, often with resection. For weakening the action of a muscle the Jameson recession operation serves admirably, being far superior to and more accurate than the ordinary tenotomy.

Amount of Correction

It is usually stated that in squint a deviation of 1 mm. equals 5 degrees of arc. This is arrived at by taking the diameter of the eyeball as 23 mm. which gives us about 72 mm. in the circumference. As there are 360 degrees in the circumference this works out to 1 mm. equals 5 degrees of arc. Since 5 degrees of arc is also equal to 10 prism dioptres, it follows that I mm. deviation also equals 10 prism dioptres. Thus, if we know the amount of the deviation in degrees or prism dioptres, we can estimate the amount of shift of the eyeball, in millimetres necessary to correct it.

If the eye is larger than normal 1 mm. deviation would represent less than 5 degrees. In smaller eyes more than 5 degrees. It must be remembered that linear shortening or lengthening of one muscle by 1 mm. for example does not necessarily result in 1 mm. shift of the globe.

* WHITE, J. W.—When and how should one operate for Convergent Strabismus. *Arch. Ophthal.*, Vol. XII, p. 699, November, 1934.

Jameson* estimates for the recession operation that 1 mm. recession of the internus will correct 5 degrees of deviation. With a 5 mm. recession of the internus he expects 20°-25° correction and 40°-50° if bilateral.

Recession of the externus gives only about 1/3 as much correction (15-20 for bilateral recession).

Resection or advancement of one externus averages about 15 degrees.

The amount of correction figured beforehand may have to be modified to some extent depending upon local conditions found when the muscles are exposed.

Age for Operation

There is nothing to be gained and often much to be lost by waiting too long before operating. The delays recommended by many were based on the idea that one must wait until the patient is old enough to have operation performed under local anaesthesia. It seems reasonable to operate when more conservative measures have proved inadequate. Early operation will often avoid complications due to secondary changes in the muscles. Children with squint are apt to develop an inferiority complex which makes it advisable to correct the condition before the child has to take up competitive work in school.

Anaesthesia

While it is true that under local anaesthesia one may be able to judge the effect of the procedure and grade the operation accordingly, it is true only under partial anaesthesia which is nerve racking and painful for the patient. In order to secure adequate local anaesthesia a retro-bulbar block is necessary to avoid pain due to traction on the muscles. This, of course, interferes with the muscular motility and we are no better off than with a general anaesthetic. Further, the healing is not so rapid and the reaction is greater if a local anaesthetic is used. My preference is for general anaesthesia, intra-tracheal, which leaves the area of operation entirely free. With this method the patient can be kept down to the level desired without fear of coming up at an awkward time and is entirely relieved of the pain and mental anguish which so often accompanies inadequate anaesthesia. It is requisite for general anaesthesia, however, that a proper pre-operative examination of the squint be done, and a careful evaluation of the kind and degree of the surgical interference be made.

* JAMIESON, P. CHALMERS.—The Surgical Entity of Muscle Recession. *Arch. Ophthal.*, Vol. VI, pp. 329-361, September, 1931.

Sutures

The use of chromic catgut sutures and atraumatic needles simplifies the operation and adds to the comfort and happiness of the patient. Triple -0 or Four -0 ten day chromic sutures on atraumatic needles will be found entirely satisfactory for all muscle work. These sutures do not have to be removed later and, unlike silk, they become less irritating the longer they remain. The catgut tends to swell and increase in size and for this reason holds well without cutting through.

Recession Operation

At this point I would like to say a few words about the recession operation as advocated and practised by P. Chalmers Jameson.

This operation is mechanically better, safer, and more precise than the older tenotomy. It gives all the advantages of tenotomy, plus a precise correction with fixation to the sclera which prevents later divergence or caruncular retraction.

The operation has been so often and so ably described at different times by Dr. Jameson that I need not enter here into details of the technique. I have used it in my practice for thirteen years, both alone and in conjunction with advancement and resection. If care is used in placing the sutures, one need have no fear of damage to the eyeball. As Dr. Jameson has pointed out, the needles should be of a type that will split the scleral fibres easily. Small bundles of fibres should be picked up by the point of the needle as it is worked through and the needle and suture should be visible always through the over-lying sclera. If this is observed penetration of the globe need not be feared.

In order to prevent faulty convergence following recession, the muscle should not be receded beyond the equator of the eyeball. This allows us about 5 mm. maximum for recession in the average eye on the internus and about 2·5 mm. for the externus. This rule may be violated occasionally in the case of the externus. If the cornea measures more than 11 mm. the eye is probably larger than normal and a slightly greater amount of recession may be admissible. If the cornea is less than 11 mm. slightly less would be the margin of safety. In some instances the muscle insertions may be nearer than normal to the cornea and in these cases we would have a correspondingly greater distance to recede the muscles before the equator is reached. If insertions are further back than normal a lesser amount of recession would place the muscle ends at the equator.

Broadly speaking, where an internal squint is of a convergence excess type recession of the interni is indicated either single or bilateral.

In an internal strabismus where convergence is weak and the near point is farther away than normal recession would be inadvisable. In these cases advancement or resection of the externi is indicated.

In many instances these may be combined. When both recession and resection or advancement are used it seems better to do the recession first. This puts less stress on the sutures for the resection with less likelihood of slipping or cutting out.

The cosmetic results with properly performed recession are excellent and there is no faltering of convergence, caruncular retraction, or late deviation outwards.

Post-Operative Treatment

With recession alone the reaction is usually slight. With advancement or resection it is greater. Ice compresses during the early stage give comfort and reduce swelling. The eyes should be irrigated with boracic solution and the dressing changed once or twice daily. Metaphen ointment or some other antiseptic is instilled when dressings are changed, and atropine 1 per cent. used daily. Both eyes are covered for the first few days. In recession alone one eye is uncovered about the third day and both about the fifth or sixth. With advancement both eyes are kept covered for about 5 days. (Orthoptic treatment during the early healing period does more harm than good.)

To summarise, the value of a careful pre-operative examination in strabismus has been stressed. With this as a background plus an evaluation of the local conditions found at the time of operation, results under general anaesthesia are good. Operation should be performed when other treatment has failed and not delayed too long. Recession of the over-acting muscles or advancement or resection of the under-acting muscles, or a combination of these, will correct most cases. The recession operation is preferable to tenotomy.

ANNOTATION

Disability Lawsuit following Successful Bilateral Cataract Extraction

This is the title of a short paper in the *Amer. Jl. of Ophthal.* February, 1942, read before the Colorado Ophthalmological Society at Denver in November, 1940, by R. W. Danielson and J. C. Long.

The authors were employed to prepare an ophthalmological vocabulary and series of ocular facts apropos to the case. In this case a policy of disability insurance of considerable magnitude contained the following significant clause: "*the irrecoverable loss of sight in both eyes*," or the total and permanent loss by accident or disease of the use of both hands, or both feet, or of one hand or one foot, shall constitute total and permanent disability,

Many years after the issue of the policy, the holder developed cataracts which were successfully removed, and he returned to his work as a real estate agent. He apparently noted that the policy said "loss of sight *in* the eye," and realizing that no lens could be put back in the eye, he applied to the company for total disability benefits. The company refused and the holder brought an action for recovery. The ophthalmological facts were not in dispute. The judge, who sat without a jury, ruled in favour of the policy holder; his reasons are given. The company next appealed and the decision was reversed. It must be stated that with glasses the holder's sight in each eye was normal after the operation.

In America, we do not know if the same is held in Britain, it is "a cardinal principle of insurance law that a policy or contract of insurance is to be construed liberally in favour of the insured and strictly as against the company."

No doubt the point is a nice one and would have been so considered by those eminent legal luminaries "Sir Abraham Haphazard" and "Waterbuck, Q.C."; but to our non-legal mind we do not see that the insurer suffered any permanent disability. Glasses gave him normal vision and he was able to go on with his work. As the authors of this paper say:—"One can see that, if the judgment of the lower court had not been reversed, the ruling might have been extended by being construed to apply to errors of refraction and even to simple presbyopia. Such a liberality in the interpretation of this clause could, of course, ruin any insurance company doing this type of business. However, if the policy were to be construed in the claimant's original limited contention of *in* the eye, then such blindness due to conditions in brain lesions, optic atrophy, a severance of optic nerves by gunshot, or skull fracture would not be covered—an obviously unfair interpretation."

ABSTRACTS

MEDICAL OPHTHALMOLOGY

(1) **Focosi (Florence).—The variations of arterial pressure during operations, and the effect on it of bleeding. (Sul comportamento della pressione arteriosa durante alcuni interventi chirurgici oculari. Utilità ed azione del salasso. Sulla patogenesi di alcuni complicazioni operatorie).** *Boll. d'Ocul*, September, 1939.

(1) One of the most formidable accidents after an operation on the eye is expulsive haemorrhage. This is usually preceded by loss of vitreous. Fortunately this accident is not common. Two factors are of importance in its production; the pressure in the arteries and the sudden reduction in the supporting pressure of the globe. In the endeavour to prevent this accident, bleeding has been used. It is found that the most marked reduction of general arterial pressure follows some twelve hours after the loss of blood, and therefore the bleeding was done about this time before the main operation. When this was not done, much time was taken in the attempt to reduce the pressure, during which serious loss of vision might occur in glaucoma. (The simple expedient recommended by Priestley Smith, posterior scleral puncture, does not seem to have been tried.) In the investigations made to establish the value of bleeding, two things were in mind; to see whether local pressure was affected more than general; and also whether there was any influence on the variations which might be expected during operations. **Focosi** finds that there is almost constantly a rise in pressure during the operation and that this is greater the more prolonged the operation. In some cases the difference may be as much as 60 mm. Hg. He has found that in cases which had shown a great rise in one operation, a second undertaken after bleeding showed little rise. He has found, also, that the incidence of detachment of the choroid, after glaucoma operation, was much reduced by preliminary blood-letting. The amount of blood to be withdrawn should be some 500 c.c.; this causes little inconvenience; it should, in Focosi's opinion, always be a preceding manoeuvre in any patient whose blood pressure is above 170 mm. Hg and, further, it may be used with advantage when the intra-ocular pressure is very high, even if the arterial pressure is normal.

HAROLD GRIMSDALE.

(2) **XVII International Meeting of the Paris Neurological Society.—The Pupil in nervous disease. (La pupilla in neurologia).** *Riv. Oto.-Neuro.-Oftal.*, January-February, 1939.

(2) At this meeting the state of the pupil in health and disease was the chief subject. After two papers on the size, and the normal reflex and associated movements of the pupil, Professor Velter dealt with the importance of the pupil in the various nervous maladies as a means of diagnosis. The points to be observed, he said, are three: (1) the state of the pupil in rest, the variations in the size and shape of the pupil, and difference between the condition of the two pupils; (2) variation of the normal reflexes and associated movements; their reduction or absence: or their inversion; (3) examination of the rate at which changes in the diameter are brought about, whether the change is too slow or too rapid, or abnormally prolonged.

The pupils are usually small in tabes and behave like miosis due to sympathetic paralysis. Mydriasis is generally found in extensive disease of the brain and coverings. Inequality of the pupils may be fixed, variable or alternating. Inequality is often a sign of some lesion of the third nerve. Without other symptoms it is rare; some disturbance of the reflexes, or of the external muscles is common. The association of inequality with the Argyll Robertson phenomenon is an important aid to the diagnosis of syphilis. In general paralysis and in tabes inequality is often part of a third nerve palsy. It is then of little importance. It is an early sign of general paralysis and is found in some 75 per cent. In later stages it is almost always present. Miosis may be marked and remains even when the eye is blind.

In disseminated sclerosis anisocoria is found in about a quarter of all cases; if it occurs without lesion of the third nerve, it is unilateral mydriasis with no disturbance of the reflexes; it varies with illumination and with the state of the disease. Anisocoria is common in epidemic encephalitis; it is usually part of a third nerve palsy; there is often paralysis of accommodation. In Parkinson's disease anisocoria is very commonly associated with loss of contraction of the pupil on convergence. Anisocoria has been noted in certain intoxications.

It is one of the chief points in the diagnosis of affection of the sympathetic nerves, whether this be paralytic or due to excitation.

Velter then went on to discuss the changes in the pupil reactions. Loss of the light reflex without other sign (A.R. pupil) is well known. It is one of the chief signs of syphilis of the nervous system. Sometimes atrophy of the iris may accompany or follow the appearance of A.R. pupil. Apart from syphilis A.R. pupil is very rarely seen; it has been seen in cases of herpes frontalis.

Loss of the reaction to convergence with retention of the light reflex is very rare. It seems to be a sign of Parkinson's disease. Absence of both the light reflex and the convergence reaction—total pupillary rigidity—may be due to third nerve palsy or to syphilis.

The whole discussion is instructive and is well worth study.

HAROLD GRIMSDALE.

(3) **Bedell, A. J. (Albany).—Traumatic changes in the retina, choroid, nerve head and vitreous.** *Jl. American Med. Assoc.*, November 22, 1941.

(3) Since ocular tragedies are increasing in industry, in the home, in the school and in travel, Bedell proposes a review of the traumatic changes in the fundus and their differentiation from the non-traumatic. Now with America at war this need is greater. He shows that holes in the macula can result from injury, from inflammation of the uveal tract or from disturbance of the retinal circulation.

The traumatic hole is unilateral, except on the rare occasions when both eyes are injured. It varies greatly in size, from 1/6 to at least 2 disc diameters. The border may be a uniform grey, speckled with white spots, with scattered pigment or with thick grey tags. The crater ranges from a shallow excavation to a deep punched out hole; its floor varies from dark red to pale pink, and may be pigmented. Circum-macular pigmentary deposits or connective tissue circles may be present. These traumatic holes therefore vary considerably in appearance.

The inflammatory hole also is unilateral unless there is bilateral inflammation, and there are no significant differences in character between this hole and the others, but there is evidence of inflammation of other structures, such as involvement of the uveal tract, complicated cataract, etc.

Circulatory holes may be so small as to be overlooked. They are always associated with changes in the retinal vessels. They are bilateral or become bilateral while under observation. The hole that is found in detachment of the retina is quite different. A small hole is sometimes found in children with amblyopia, and in glaucoma a clearly outlined hole is sometimes seen.

Rupture of the choroid may be completely overshadowed by a haemorrhage, an exudate, oedema or all three, so that no suggestion of an underlying tear is evident for several days. In its least complicated form there is an isolated yellow-grey swelling without haemorrhage. As the swelling disappears a yellowish band becomes apparent, usually more or less concentric with the disc,

often to the temporal side but not rarely to the nasal. Ruptures may be single or multiple. Later it becomes white with sharp edges. Traumatic rupture of the choroid must be differentiated from the spontaneous choroidal tears which occur near the macula in high myopia.

Oedema of the retina, most pronounced at the macula, may be caused by trauma; it is a transitory condition, which Bedell refers to by the name of its first observer as Berlin's oedema; its more familiar name is commotio retinae.

Embolism of the central artery has been observed to follow a blow on the eye.

A direct compression of the globe may cause a choroidal haemorrhage which is seen as an oval or round bulging of the retina. If it is large the overlying retina is grey or milky white.

Increased ocular tension, with or without hyphaema, as the result of a blow, may pass unnoticed.

Traumatic atrophy of the optic nerve may be partial or complete, and may develop suddenly or gradually as the result of even a trivial fall.

Avulsion of the optic nerve is usually the result of a bullet wound. When the nerve is completely severed there is a great white depression of the papilla.

Retinitis proliferans may follow a penetrating wound.

Traumatic retino-choroiditis with permanent visual loss is ushered in by a white and swollen appearance of the retina. Pigmentation occurs later.

Penetrating wounds may cause only localized damage, shown by pigmentation, scars and proliferation. The entrance of foreign bodies causes changes of varying character. It is noteworthy that glass causes the least reaction.

Traumatic retinal detachments have no definite signs to distinguish them from those of spontaneous origin. Operative detachment of the choroid is not mentioned.

The importance of ophthalmoscopic examination in all cases of head injury in order to detect the existence and perhaps the increase of papilloedema is stressed.

Bedell's paper was read before the Section on Ophthalmology of the Annual Session of the American Medical Association of 1941. His splendid series of fundus photographs of the various traumatic lesions was greatly appreciated by his audience.

A. F. MACCALLAN.

BOOK NOTICE

Diseases of the Eye. By SIR JOHN PARSONS, F.R.S., Tenth Edition, revised with the assistance of H. B. STALLARD. P. 726. London: J. and A. Churchill. 1942. Price 25/-.

Close on five-and-thirty years ago a new star appeared in the ophthalmological book firmament. This was the first edition of Sir John Parsons' admirable book. It has been the mainstay of most English-speaking students for more than a generation, and we welcome the appearance of a new and revised edition, which gives promise of a continued long life. The reviewer was working in Sir John Parsons' clinic at Moorfields when the first edition came out and well remembers the appreciation with which it was universally received. In the early years of this century there were a number of good hand-books on diseases of the eye and students had a wide range from which to choose. Many read Swanzy, while to others the works of Jessop and Nettleship (the second edition of the latter by Holmes Spicer, was then either going or gone out of print), appealed; students who could afford a more expensive type of book indulged in Berry or Henry Juler, while those whose interest in eyes was only concerned with passing their finals relied on the excellent "aids" by the young Jonathan Hutchinson. Fuchs, then in a black cover, had not reached the undergraduate mind. Sir John's handbook immediately achieved success and this has been maintained by succeeding editions. We cannot imagine a better text-book of its size in our language. This tenth edition has undergone careful revision throughout. The section on general and local anaesthesia has been largely re-written and a special section devoted to anaesthesia and nerve block has been added. Recent advances in operative technique have been incorporated and the outstanding advances in therapeutics such as the sulphonamides and vitamins are included. Even so recent a discovery as that of the peculiar type of retinal haemorrhages found in some cases of hyperemesis gravidarum is mentioned. As the author says in his preface, "every effort has been made to retain its character as a reliable introduction to the diseases of the eye for students, general practitioners and junior ophthalmic surgeons." In our mind there is no doubt that this is so.

CORRESPONDENCE

To the Editors of THE BRITISH JOURNAL OF OPHTHALMOLOGY.

DEAR SIRS,—Miss Rosa Ford is of the same opinion still. It is scarcely surprising; the aerial bastions of her theories would hardly crumble at the first whiff of dialectical grapeshot.

I am grateful for the maternal solicitude of her reply to my recent letter in your columns; but it consists of little more than a reiteration of her familiar beliefs, and the implication that if her article of your March number has failed to convince me, her report of February might succeed. This naive suggestion is surely one of those triumphs of hope over experience which I have ventured to criticise in her views.

I regret to see that no other opinions have as yet been expressed in this controversy; it seems as though Miss Ford, who is rapidly reducing pathology to a single disease, is at the same time reducing criticism to a single obscure provincial voice.

I am anxious to be quite fair in the objections I have raised against her theories; I have not sought to press unduly the fewness of her cases and the absence of controls; I admit that we should not necessarily wait until an instructive rarity has become a commonplace before we dare to draw fair inferences from it. There are some phenomena—like the trout in the milkjug—which do not need confirmation; inescapable conclusions flow naturally from them; but I cannot agree that the facts reported by Miss Ford fall into this category. It is not primarily of the quantity of the evidence of which I complain; it is of the quality. Obviously, however, the fewer the cases, the more critical must be the examination and the more cautious the deductions drawn from them.

In my previous letter I confined myself (with some misgivings) to discussion of the conclusions she has drawn; and I tried to show that they were neither fair nor justified. But if, as Miss Ford herself suggests, her data are reviewed too—particularly those of her case reported in February—it seems that this attitude may have been over generous.

In the first place, Miss Ford clearly uses the term 'retrobulbar neuritis' in what might be called a Pickwickian sense. Surely the term implies a very definite and familiar clinical condition, characterised chiefly by the presence of a central scotoma, and with a very strong tendency to spontaneous recovery, and commonly if not invariably a herald of disseminated sclerosis. It is not difficult to visualise an early focus of this disease occurring more or less centrally in the optic nerve, and producing just such an effect. Miss Ford, on the other hand, uses the term retrobulbar neuritis as synonymous with peripheral field defects, which is an entirely different matter. To employ the same term for this condition too—without explanation or qualification—is not only to confuse the issue, but also to a considerable extent to beg the question. It is noteworthy that in her later article (*Brit. Jl. Ophthal.*, March, 1942), no visual fields are given or described.

Her cases, as far as one can judge, may have been examples of peripheral interstitial neuritis or perineuritis; a rare and obscure

condition, but one into which a diagnosis of disseminated sclerosis can hardly enter. It is possible to imagine a focal lesion in the optic nerve disturbing the central fibres, but it is hardly possible to imagine an annular or spiral focus interrupting the peripheral ones. Miss Ford's terminology is so lacking in precision that it permits her to argue both ways; but if she is to call her colleagues sharply to task for diagnosing disseminated sclerosis too easily, she must at least reason from cases where such a diagnosis is likely.

The question is too lengthy to discuss in detail here; but it has been admirably summed up in "An Introduction to Clinical Perimetry" by Traquair, and in "Textbook of Ophthalmology" by Duke-Elder. In the second place, I cannot regard the evidence of nasal sinusitis in her cases as convincing; certainly not in the second one, which I have already discussed in my previous letter. With regard to the earlier case, we are told that two well-known rhinologists agreed that the nose was remarkably normal and without the slightest suspicion of any underlying sinusitis; but this pathetic stand by the Old Guard is overpowered by the triumphant advance of Miss Ford's theory. I still think it is at least possible they were right. I write here tentatively, and subject to correction; I am not knowledgeable about the nose; its dark impenetrable caverns are as unlighted for me as those of Kubla Khan; I look upon rhinologists as bold and bloody men. Perhaps I am unduly prejudiced by the fact that I have only twice entrusted myself to their care, and in each instance was fortunate to escape with my life; yet I still look upon their work with respect, and with childlike awe upon the products of their intrepid burrowings; I think twice, however, before unduly encouraging them.

It has long been recognised that the close proximity of the optic nerve to the sphenoidal air cells would seem anatomically to render it vulnerable to extension of infection from sinus disease; but that same proximity is itself an alarming prospect for the nasal surgeons. It is rumoured that the very optic nerve itself has not always been immune from the attention of their instruments; surgical interference with the deeply placed sinuses is not an operation lightly to be undertaken, but only on the clearest indications. It is perhaps significant that Miss Ford's first case relapsed after operation on the sphenoidal sinuses, but recovered after antrostomy. She does not indicate how the sinusitis is supposed to have affected the nerve, but this is not a strong confirmation of the rather attractive theory of damage produced by the direct spread of infection.

In the third place, the recovery of the visual fields after sinus drainage is inconclusive. Retrobulbar neuritis—even allowing for Miss Ford's specialised use of the term—is a disease notoriously liable to recover, whatever remedies are employed. All theories about its origin founded upon recovery after treatment are open to

the fallacy of *post hoc ergo propter hoc*, and must be critically examined in that light. It has also been quite reasonably suggested that when there is perineuritis of the optic nerve, operation on the sphenoidal sinus (even if it is not diseased) may hasten recovery through the beneficial effects of the relief of local congestion and the action of neighbouring processes of repair. An heroic remedy, if this is so.

All that is left then of Miss Ford's theory, is that a very strange sort of retrobulbar neuritis, in a few cases, is alleged to have been associated with a very peculiar type of sphenoidal sinusitis, despite the opinion of the well-known rhinologists; but under such circumstances that it is very difficult to demonstrate any connection between the two conditions, if either or both of them really existed. The whole is made plausible only by Miss Ford's technique; a few cases, a few facts, a few disputed data; these knit together by a loose terminology make up a theory to explain away the difficulties of at least three diseases which have baffled the patient work of painstaking investigators.

I hope this will serve to make clear my contentions, and that they will not appear prejudiced or unreasonably sceptical; if this is progress, I still prefer to wait. It is clearly profitless to labour the question, as the points of view of Miss Ford and myself are so diametrically opposed that they cannot be reconciled; we hardly speak the same scientific language. It remains only for me to retire from the controversial field, and to leave to her that latest word which is the privilege of her sex. Strive as I may to keep an open mind, I must confess that I am still unconvinced as to the possibility of closed nasal sinusitis—undetectable, and invisible to the most skilful eye—lurking in wait, and dealing out destruction in due time. Many and various, I know, are the weapons in the armoury of death and disease; but I cannot yet accept among them the sphenoidal submarine.

I am, Yours truly,

ALLAN H. BRIGGS.

20, MINSTER YARD,
LINCOLN, *June 11, 1942.*

OBITUARY

MALCOLM LANGTON HEPBURN

OLD Moorfields students in many parts of the world will have learnt with great regret of the death of Malcolm Hepburn. But by those who had the double privilege of being his colleagues and of knowing him well, his loss will indeed be deeply felt.

Photo by Vandyk

MALCOLM HEPBURN

Malcolm Langton Hepburn was the son of Augustus Paull Hepburn, of Bermondsey. He was educated at Uppingham, and entered St. Bartholomew's Hospital in 1885, where he gained the Foster Prize in anatomy and qualified in 1892, taking the Conjoint Diploma and the M.B., B.S. degree in the University of London. He then served for a year as house-surgeon to his uncle Mr. Langton and added the F.R.C.S.(Eng.) and the M.D.(London) to his qualifications. In 1895 he began general practice in Lowestoft where he later was appointed Assistant Surgeon and afterwards Surgeon to the Hospital. Returning to London in 1904 he took up the special study of Ophthalmology and joined Moorfields as a student, where he worked under Sir Arnold Lawson and the late Mr. Holmes Spicer, eventually becoming Chief Clinical Assistant to Sir John Parsons. During the same period he attended St. Bartholomew's Hospital and was appointed Chief Assistant in the Ophthalmic Department.

His first Staff Appointment was that of Assistant Surgeon to the Central London Ophthalmic Hospital and soon afterwards he became Assistant Ophthalmic Surgeon to the Hampstead General Hospital. These appointments were followed by his election to the Staff of Moorfields in 1910, and in 1913 he was appointed Ophthalmic Surgeon and Lecturer to the Royal Free Hospital. At Moorfields he served as Sub-Dean of the Post-Graduate School from 1913 to 1920 and after that date as Dean, until his retirement from the active Staff in 1926.

In addition to his other activities he examined for the D.O.M.S. Diploma, and occupied the Presidential Chair for two years at the Section of Ophthalmology of the Royal Society of Medicine. He also delivered the Doyne Memorial Lecture at the Oxford Congress in 1935.

At the time of his death, Hepburn was a member of the Consulting Staff of Moorfields and of the Royal Free Hospital and was also Hon. Secretary to the Council of British Ophthalmologists, a post which he had filled for a number of years.

Malcolm Hepburn was essentially a man of sane outlook and well-balanced judgment, qualities natural to him which were no doubt enhanced by his wide experience gained in general practice.

His surgical work was on a high level and he was a popular teacher, always attracting a large crowd of students.

His strong sense of duty and his great conscientiousness were salient features of his character; his patients' welfare whether in hospital or in private was his chief concern. He was always anxious to learn and was a familiar figure at meetings in the proceedings of which he not infrequently took part. A branch of ophthalmology in which he shewed special interest and on which he held original views was that concerned with inflammatory lesions of the choroid, their pathology and the fundus changes which

characterize them; this he made the subject of his Presidential Address at the Royal Society of Medicine.

Hepburn's personal charm, his modesty, geniality and unselfishness combined with a certain sense of humour won him many friends, but in those who were privileged to know him well the chief feeling which he inspired was one of affection. He was the most loyal of colleagues and utterly incapable of a mean thought or action.

Those students who passed through Moorfields during the years of his deanship will remember gratefully the fatherly concern which he shewed in their affairs and his constant desire that they should be enabled to make the best use of their opportunities.

Hepburn was a keen sportsman and a good player of tennis, cricket and fives. But apart from his work the outstanding interest of his life was mountain climbing. He was a climber of great experience and distinction, a member of the Alpine Club and a conqueror of many of the most difficult peaks in the Alpine chain. His love of the Alps amounted to a passion, a statement to which anyone who had the privilege of accompanying him to Switzerland can testify. His contributions to the subject of mountain-sickness published in the Journal of the Alpine Club were recognized by the Royal Geographical Society, of which he was elected a Fellow.

Hepburn leaves a widow, a son and three daughters.

FRANCIS ANTILL POCKLEY, of Sydney

MR. POCKLEY, who had been our Sydney representative on the general Committee of the Journal since our foundation, died on July 3, 1941.

In war it is almost impossible for the Editors to keep abreast of such news, and it was not until Dr. Lockhart Gibson wrote to notify us that we knew of Mr. Pockley's death. He asked the Editor of the *Med. Jl. Austr.* to send us the issue of August 9, 1941, which contains appreciations from an old friend and from Dr. Lockhart Gibson. We wish to acknowledge our appreciation of this kindness as it enables us to give our readers some idea of Mr. Pockley as a highly distinguished Australian and ophthalmologist.

Pockley was born in 1857, the son of Captain Robert Pockley, a well-known seaman of that epoch. His ancestors were Yorkshiremen, where they have been located for centuries. Pockley's mother was Miss Selina Antill, daughter of Major Antill, who was A.D.C. to Governor Macquarie in 1809. Major Antill had served under Wellington in the Black Watch and no wonder that Pockley was proud of his lineage.

Pockley started on a business career after education at Sydney Grammar School, and later came to Edinburgh to study medicine. His academic career was one of great brilliancy. He was house

surgeon at Edinburgh and then undertook post-graduate work at Vienna and returned to Australia as surgeon-superintendent of an emigrant ship.

He began in general practice in Sydney, but quickly settled on an ophthalmic career, having been one of the first four men in New South Wales to become full-time eye specialists. He was appointed lecturer in ophthalmic surgery in the newly organized medical school of Sydney University, and ophthalmic surgeon to the Prince Alfred Hospital.

He retained his lectureship for the record period of 37 years, and was held in high estimation throughout Australia. At various times he was president of the N.S.W. Branch of the B.M.A. and president of the Australian Medical Congress of 1911; he also took a leading part in the foundation of the Royal Australasian College of Surgeons. He had many hobbies, was an early motorist and delighted in long car tours through the continent; he was a keen student of history, particularly that of Australia and his native city of Sydney, and he was a great gardener. Dr. Lockhart Gibson contributes a fine appreciation of Mr. Pockley as an ophthalmologist and the article is accompanied by a striking photograph.

NOTES

Death

WE regret to record the death on May 25, 1942, of Herbert Henry Taylor, late of Hove, in his 84th year. Born September 21, 1858, he was the son of Francis Taylor, of the Audit Office. He was educated at Merchant Taylor's School and St. George's Hospital. At hospital he was a prize winner and he took the Conjoint diplomas in 1880, proceeding to the F.R.C.S. in 1887. After qualification he was House-surgeon and house-physician at the West London Hospital and later R.M.O. Brompton Hospital. For a few years he was in practice in the Lewisham Road, but moved to Hove in 1890. In earlier years he was a member of the Ophthalmological Society, but his medical writings seem, for the most part, to have dealt with more general matters. For years he was Surgeon to the Sussex Eye Hospital and Consulting Surgeon to the Royal Alexandra Hospital for Sick Children. Taylor was J.P. Sussex and had been president of the Brighton and Sussex Medico-Chirurgical Society. More than thirty years ago he joined the Territorial Army, R.A.M.C., and during the last war was O.C. Ophthalmic Centre for Sussex, with a Brevet Majority.

Taylor was a famous Rugby Football player in his youth. He played for England at half-back from 1879 to 1882, and was a

member of the Blackheath Club. Altogether he was capped five times and scored twice against Scotland in 1880 and twice against Ireland in 1881. The Rev. F. Marshall, in his book on Rugby Football says: "Taylor possessed no dropping powers but was a first-rate half-back, wonderfully quick on the ball, and at utilizing an opening in his adversaries defence. He ran low and very strongly, though not very fast, and used his arms to great effect . . . he did excellent service for England."

Though not ophthalmological it seems a pity that such a distinguished athletic record should not be remembered.

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All Eyes

THE 27th Annual Report of the National Society for the Prevention of Blindness (1941) bears the title "All Eyes." Mr. Mason H. Bigelow, the president of the Society in his foreword emphasises the importance of conservation of sight in these days of war. "Total war effort needs all eyes." A brief résumé is given of the Society's activities during 1941. These include such titles as the expansion of industry, medical relationships, nursing relationships, medical social work, education, state prevention of Blindness and public information. A list of voluntary advisory committees and summary of finances conclude the report. Last year expenditure exceeded income and $22,500 had to be taken from the reserve fund.

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Ophthalmological Society of the United Kingdom. Officers for Current Year

The following officers for the current year were elected at the Annual Congress on May 29, 1942. *President*, Percival J. Hay; *Vice-Presidents*, W. Clark Souter, P. G. Doyne, M. H. Whiting, Alex. MacRae; *Hon. Treasurer*, Sir Arnold Lawson; *Council*, Frank W. Law, G. G. Penman, Arnold Sorsby, S. S. Meighan, A. B. Nutt, T. Keith Lyle; *Acting Hon. Secretary*, Frank W. Law.

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Special Notice

WE are asked by the Ministry of Information to state that the fact that goods made of raw materials in short supply owing to war conditions are advertised in this journal should not be taken as an indication that they are necessarily available for export.

FUTURE ARRANGEMENTS

1942

July 2, 3, 1942.—Oxford Ophthalmological Congress, at Oxford.